**Student Worksheet: Horned reptiles may prefer to lie in wait**

**Directions**: Answer the “Before Reading” questions. Then read the online *Science News* article “[Why do some lizards and snakes have horns?](https://www.sciencenews.org/article/lizards-snakes-horns-camouflage)” and answer the remaining questions as directed by your teacher.

**Before Reading**1. List three animals with horns of some type. What benefit might these horns provide to each animal? Write one potential benefit for each animal.

2. Evolution is the process by which one species develops and diversifies over generations into a new species. What types of changes might drive evolution? Come up with three examples — perhaps including the environment or climate — that might drive evolution.

**During Reading**

1. Describe how most species of horned lizards and snakes catch their prey.

2. How might horns on a lizard be a disadvantage when hunting?

3. What question did Frederico Banfi and his team hope to answer?

4. Into what two categories did Banfi and his team group various species of reptiles in their study?

5. How many species of reptiles were included in this study? How many of those had horns on the snout, eyebrows or head?

6. Researchers mapped their data onto a previously published lizard-snake evolutionary tree. About how many times did horns evolve independently? In which of the two categories of reptiles you listed in question 4 (in the During Reading section) did this trait evolve most frequently?

7. According to Banfi, how might the presence of horns present reptiles a disadvantage? Under what circumstances are reptiles more likely to have horns?

8. What are some possible next steps for scientists studying horned reptiles?

**After Reading**1. An evolutionary tree (also called a phylogenic map) is a kind of diagram that shows the evolutionary changes and development of different species over time. A series of organisms may exist for many generations then split, creating new species that now form new tree-like branches on a map. Check out the following [example](https://upload.wikimedia.org/wikipedia/commons/thumb/7/75/An_evolutionary_tree_of_mammals.svg/734px-An_evolutionary_tree_of_mammals.svg.png?20210411155611). The image or use of the term tree serves as an analogy. An analogy is a comparison between two things — usually one thing that is familiar and one unfamiliar. The analogy helps explain the unfamiliar concept by relating it to the familiar one. Do you think a tree is a good analogy to show changes in species over time? Why or why not?

2. How was an evolutionary tree helpful to scientists for this study? Explain.

3. Convergent evolution is when two unrelated species independently develop similar strategies or traits. Give one example of convergent evolution from this article. What contributed to the convergent evolution you’ve described?